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Remarks

Claims 1-33 have been withdrawn from consideration for this application. Claims 34-42 have been cancelled in this response, and claims 43-54 are newly added, with claims 43 and 49 being in independent form.

Claims 34-40 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for "failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." Specifically, the rejected phrase read "selected from the group consisting of idiopathic mental retardation, mental retardation and at least one other clinical abnormality, mental retardation and cancer, and combinations thereof. . ." These claims have all been canceled in the present amendment. However, Applicants assert that the claims, prior to this amendment, were in proper Markush form, with each member of the group separated by a comma, and the last member of the group separated by an "and." In an effort to advance the prosecution of this application and as suggested by the Examiner, Applicants have inserted an "or" between each of the distinct members of the Markush group of the new claims that contain the rejected phrase. Accordingly, Applicants assert that this rejection has been overcome.

Claims 34-37 and 41 remained rejected under 35 U.S.C. 102(b) as being anticipated by Rogan, et. al (Rogan); claims 34-42 remained rejected under 35 U.S.C. 102(b) as being anticipated by Flint, et. al.; and claims 34-40 remained rejected under 35 U.S.C. 102(b) as being anticipated by Bentz et. al. Again, all of these claims have been canceled in the present amendment. Applicant's newly added claims include the limitation that the probes of the present invention hybridize to a point less than 1500 kb from the terminal nucleotide. Support for this claim terminology is provided on page 12, beginning at line 23. Applicants assert that such a limitation overcomes all of the cited

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references as none of those references disclose, teach, or suggest probes which hybridize to a subtelomeric location less than 1500 kb from the terminal nucleotide. As such, any cytogenetic abnormalities within this subtelomeric region could not be diagnosed or detected. In view of the newly added claims, Applicant respectfully asserts that these rejections have been overcome.

Claims 34-37 and 39-40 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of U.S. Patent No. 7,014,997 (the '997 patent). Furthermore, claim 38 was rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of the '997 patent in view of Bentz et. al. In response to these rejections, Applicants assert that the present claims are not obvious over the '997 patent alone, or in combination with Bentz. This is because neither of the references discloses, teaches or suggests a method which can hybridize probes within 1500 kb of the terminal nucleotide of a chromosome arm, as is claimed in the present application. Additionally, given that the claims of this application have not yet been allowed, these double patenting issues can be addressed with a terminal disclaimer if the claims that ultimately issue from this application are in conflict with the claims of the '997 patent. In that event, Applicants will file a terminal disclaimer.

In view of the foregoing, it is respectfully submitted that all rejections have been overcome and that the claims as they now stand are patentable over the art of record and a Notice of Allowance appears to be in order. If any questions remain, the Examiner is encouraged to contact the undersigned at 816-880-0664.

Any additional fee which is due in connection with this amendment should be applied against our Deposit Account No. 50-2790.

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Respectfully Submitted,

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